

Safety and Occupational Health Action Plan Priority Recommendations: Safe by Design Implementation Strategy Highlights

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BACKGROUND

Reclamation Leadership has assigned the Director, TSC as the Executive Sponsor for implementation of the recommendations from Safety Action Team 20.

I have reviewed the Team 20 report and discussed its implementation with the Team Leader, Dick LaFond, and a potential primary report author, George Girgis.

Although it has been proposed that the Team 20 recommendations be divided into two separate implementation teams (focus areas), I am proposing that the recommendations be implemented under a single team. The implementation plan herein will demonstrate the merits of a single team approach to implement all recommendations.

In reading the Team 20 report and the SOH Action Plan Implementation Report, I found a fundamental misunderstanding. The latter interprets the implementation of a prevention-through-design program to include the creation of an office similar to the existing DEC Program Office. However, it is clear in discussions with the team lead for Team 20 that the intention was to integrate prevention-through-design as a process within the framework of Reclamation's current organization structure. The implementation effort will proceed under the concept envisioned by Team 20.

RECOMMENDATIONS ADDRESSED AND PATH FORWARD

Team 20 recommended, and the RLT approved, the following actions to improve the SOH design of Reclamation facilities and integrate PtD concepts into Reclamation's design culture:

1. Revise the Reclamation Manual [1] as follows:
 - a. Create a new Directive and Standard (D&S) under SAF P01 identifying AHJ responsibilities. (See Appendix G of the 2008 Life Safety Code Compliance Review Report [2]).
 - b. Revise D&S FAC 01-05 to require participation of a safety professional on transfer inspection teams.
 - c. Revise FAC 03-03 to identify AHJ design responsibilities and a clear means to integrate AHJs into the design process.

2. Assign a Team to review and revise Reclamation's Design Data Collection Guidelines [3] to increase focus on design provisions to improve SOH practices during construction and operations, and to solicit client and stakeholder input regarding SOH preferences above minimum requirements. Include identification of existing hazards (energy, materials, access, etc.), identification of hazards during construction, required contractor safety representation during construction, and identification of post-construction hazards.
3. Maintain focus on Reclamation formal design standard updates and include SOH information in Design Standards No. 1 through 14 as appropriate.
4. Establish a team to prepare a "Reclamation Safety Design" guidance document that can be used by designers to complement existing Reclamation and national standards they currently use to perform their work. This document could be modeled after Design Standard No. 1, Chapter 3, *Safety Design Standards* [4] and should identify feature specific minimum safety criteria with references to appropriate codes. It should be prepared by a team with representation from Reclamation's design, construction, O&M, and safety communities.
5. The RLT should institute a Reclamation-wide PtD program and establish a PtD Implementation Team. The goal of the PtD Implementation Team would be to integrate PtD into Reclamation's design process to identify hazards, evaluate methods to avoid and/or eliminate identified hazards, or reduce the risks to acceptable levels. The team should have representation from Reclamation's design, construction, O&M, and safety communities. Once established, the PtD Implementation Team should:
 - a. Develop Reclamation facility-specific Hazard Review Checklists for designers and other SOH review team members to use in PtD hazard risk assessments. The Checklists should include an assessment of the potential for noise-induced hearing loss of occupants that could be mitigated through application of "Buy Quiet" principles.
 - b. Conduct a comprehensive review of historical accident and near-miss reports. For incidents where a design weakness/deficiency caused or contributed to the incident, the design deficiency should be included in the Hazard Review Checklist. If a design or process modification was implemented to eliminate or mitigate the hazard, this corrective action information should also be documented.
 - c. Formalize a process for gathering lessons learned during construction and operation of facilities from design, construction, O&M, and safety personnel. Lessons learned that make future projects safer should be included in the Hazard Review Checklist.

- d. Develop guidance documents and conduct training to facilitate integration of PtD into Reclamation's design culture.
- 6. Request the Reclamation Design and Construction Coordination Team (RDCCT) to revise the Final Design Process (FDP) Guidelines to include:
 - a. PM formation of a SOH review team comprised of representatives from design, construction, safety, O&M, and others with specialized knowledge of the project to conduct a PtD hazard risk assessment during final design to consider SOH in construction, operation, and maintenance.
 - b. Creation of a Milestone for PtD hazard risk assessment near the 30% Final design milestone (CONCEPTC).
 - c. O&M staff participation during the draft specifications review stage (REVIEWC) to focus on SOH provisions.
 - d. Safety Office personnel participation during the draft specifications review stage (REVIEWC) to not only focus on construction safety, but also operator safety.
 - e. Creation of a milestone for Post-Project Review to gather lessons-learned and identify SOH improvements for future, similar facilities.
- 7. Request the Facilities Operation and Management Team to work with the RDCCT to establish a well-defined, efficient process for O&M personnel to obtain input from Reclamation's design community when they are contemplating field modifications that could represent a deviation from the original design intent. The process should permit an opportunity for a Reclamation safety professional to evaluate possible impacts the modifications may have on the SOH of the facility.

Project Plan

The implementation team will develop the following work products:

1. A new Reclamation Design Guideline entitled "*Safe by Design*" that provides a comprehensive description of how the prevention-through-design (PtD) program will be performed by Reclamation. PtD will be embedded into existing processes starting at the project planning stage, with continued emphasis and visibility through design data gathering, final design, specifications, construction, and throughout a broad range of operation and maintenance reviews and reporting opportunities.
2. Updates (and/or process for updates, as appropriate) to existing Reclamation Manual, Directives, Standards, Guidelines, Design Standards, and other reference documents to ensure full immersion of PtD activities into the life-cycle of Reclamation infrastructure, and the daily work activities of Reclamation employees.

The implementation team will rely on a very small cadre of authors, informed by a very broad array of subject matter experts. The team intends to produce the work products identified above in a draft form, and distribute the drafts as a single package throughout Reclamation to ensure a complete understanding of the interrelated nature of the proposed new approach to doing business.

I propose (perhaps naively), that the draft products will be completed and sent out for review by March 31, 2017, ask for a 45-day review period, and finalize the work of the team by June 30, 2017. At this time I am not asking for any funding to perform the work by the small cadre of authors, and the contributions of subject matter experts.